

1.2 Authority and Acknowledgments

The sources of authority for this FIS report are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

This update includes an effort to combine communities into a partial countywide FIS, as compiled from previously published FIRMs and FISs. In addition to merging communities into a partial countywide FIS, this report also details revised analyses performed on Drain 10 Breakout, Drain 53, the Red River of the North, and the Wild Rice River. These revised analyses were completed in October 2007 by Houston Engineering, Inc.

Base map information for Cass County and all incorporated communities within Cass County was provided in digital format by Cass County GIS Department, January 2009. This information was compiled from digital data sources.

The coordinate system used for producing this FIRM is NAD 1983 State Plane North Dakota South FIPS 3302 Feet. Corner coordinates shown on the FIRM are in latitude and longitude referenced to the UTM projection, NAD 83. Differences in the datum and spheroid used in the production of FIRMs for adjacent counties may result in slight positional differences in map features at the county boundaries. These differences do not affect the accuracy of information shown on the FIRM.

1.3 Coordination

An initial Consultation Coordination Officer (CCO) meeting (also occasionally referred to as the Scoping meeting) is held with representatives of the communities, FEMA, and the study contractors to explain the nature and purpose of the FIS and to identify the streams to be studied. A final CCO meeting (often also referred to as the Preliminary DFIRM Community Coordination, or PDCC, meeting) is held with representatives of the communities, FEMA, and the study contractors to review the results of the study.

Initial coordination for this partial countywide FIS began in May 2002. Between 2002 and 2010, eight coordination meetings were held and were attended by representatives of FEMA, BakerAECOM, LLC, community officials, and the State NFIP Coordinator.

The final CCO meeting was held on _____ to review and accept the results of this FIS. Those who attended this meeting included representatives of _____, the Study Contractor, FEMA, and the communities. All problems raised at that meeting have been addressed in this study.

The dates of the historical initial and final CCO meetings held for the communities within this partial countywide revision are shown in Table 1, "Historical CCO Meeting Dates."

Table 1: Historical CCO Meeting Dates

Community Name	Initial CCO Date	Final CCO Date
Fargo, City of (revision)	²	August 17, 1999
Fargo, City of	June 14, 1983	²
Harwood, City of (revision)	²	August 19, 1999
Harwood, City of (Red River of the North)	²	March 22, 1983
Harwood, Township of (Red River of the North)	²	March 22, 1983
Harwood, Township of (Sheyenne River)	June 30, 1981	June 14, 1983 ¹
Horace, City of	August 13, 1984	²
Pleasant, Township of	²	August 13, 1980
Raymond , Township of	²	²
Reed, Township of (Red River of the North)	²	November 19, 1981(preliminary); March 22, 1983
Reed, Township of (Sheyenne River and County Drain 21)	²	August 17, 1999
Reed, Township of (Sheyenne River and County Drain 21)	June 30, 1981	June 14, 1983 ¹
Riverside, City of	July 3, 1981	June 15, 1983 ¹
Stanley, Township of (Red River)	²	November 19, 1981 (preliminary); January 3, 1984
Stanley, Township of (Sheyenne and Wild Rice Rivers)	June 30, 1981	June 15, 1983
West Fargo, City of (revision)	²	August 17, 1999
West Fargo, City of	July 3, 1981	June 15, 1983 ¹

¹ Interim coordination meeting

² Date not available

2.0 AREA STUDIED

2.1 Scope of Study

This FIS report covers parts of the geographic area of Cass County, North Dakota,

including the incorporated communities listed in Section 1.1. The scope and methods of this study were proposed to, and agreed upon, by FEMA, Cass County, and the study contractors.

The areas studied by detailed methods were selected with priority given to all known flood hazards and areas of projected development or proposed construction. The scope and methods of study were proposed to and agreed upon by FEMA and Cass County. The flooding sources studied by detailed methods within this partial countywide area are the Red River of the North, Sheyenne River, Wild Rice River, County Drain 21, County Drain 45, County Drain 51, Drain 10 Breakout, and Drain 53 Breakout.

Numerous areas were studied by approximate methods. Approximate analyses were used to study those areas having a low development potential or minimal flood hazards.

Floodplain boundaries for all flooding sources within the study area have been mapped based upon the most up-to-date topographic data available.

2.2 Community Description

Cass County is located in eastern North Dakota, approximately 120 miles south of the Canadian border. Cass County is bordered on the north by Traill and Steele Counties; on the east Norman and Clay Counties, Minnesota; on the south by Richland and Ransom Counties; and on the west by Barnes County. The county is almost square, with an average east-west width of approximately 42 miles, a north-south length of 42 miles, and an area of 1,768 square miles with 3 square miles of water. The Red River of the North makes up the eastern boundary of Cass County.

Cass County has a continental climate, with warm summers and cold winters. Average monthly temperatures at Fargo, North Dakota, vary from 6.8 degrees Fahrenheit (°F) in January to 70.6°F in July, with extreme monthly averages ranging from -10.3°F to 80.2°F (Reference 1). Average annual precipitation for Fargo is 21.19 inches per month. The average yearly snowfall for Fargo is 40.0 inches. The wettest months of the year are May through August with average rainfall of over 2.50 inches.

Cass County includes two general physiographic areas: a glacial lake plain and a glacial moraine. The lake plain, located in the eastern half of the county, was formed when glacial melt waters ponded to form Lake Agassiz and sediments from tributary streams were deposited in the lake. This area is extremely flat, sloping only a few feet per mile eastward near the Red River of the North, which forms the eastern border of Cass County (Reference 2). The basin is very flat due to the uniform deposition of sediment from glacial Lake Agassiz (Reference 3). The flat land surface and small capacity of natural channels results in slow runoff and flooding (Reference 2).

The moraine, located in the western half of the county, is largely an area of gently rolling hills. The streams in the morainal area generally have better defined channels and steeper gradients than those in the lake plain (Reference 2).

The glacial lake deposits consist of sorted stratified clay and silt, creating highly productive farmland (Reference 1). The agricultural land surrounding developed areas is devoted primarily to crops such as sugar beets, wheat, pinto beans, soybeans, and potatoes. Open-space areas are characterized by grassland prairie dominated by bluegrass